

## STATEMENT OF BASIS

for draft Louisiana Pollutant Discharge Elimination System permit No. LA0090387  
to discharge to waters of the State of Louisiana.  
AI No.: 1272 / Activity No.: PER20090001

THE APPLICANT IS: Big River Industries, Inc.  
P.O. Box 190  
Erwinville, LA 70729

THE FACILITY IS: Gravelite Division  
12652 Airline Highway 190  
Erwinville, Point Coupee Parish

ISSUING OFFICE: Louisiana Department of Environmental Quality (LDEQ)  
Office of Environmental Services  
Post Office Box 4313  
Baton Rouge, Louisiana 70821-4313

PREPARED BY: Bonnie Wascom

DATE PREPARED: November 10, 2009

## 1. PERMIT STATUS

- A. LPDES permit – LA0090387  
LPDES permit effective date: March 1, 2005  
LPDES permit modification effective date: February 1, 2006  
LPDES permit expiration date: February 28, 2010
- B. LWDPS permit – NA  
LWDPS permit effective date: NA  
LWDPS permit expiration date: NA
- C. Date Application Received: August 27, 2009

## 2. FACILITY INFORMATION

- A. FACILITY TYPE/ACTIVITY – Big Rivers Industries, Inc. – Gravelite Division manufactures lightweight aggregate used in the production of concrete and concrete blocks for the construction and building supplies industries. Clay is strip mined on site and then calcined (heated and expanded) in four rotary kilns with coal as the primary fuel.

The discharge from the site includes storm water runoff, kiln scrubber water, fugitive emission dampening water, non-contact cooling water, wash water, and treated sanitary wastewater, all of which discharge via Outfall 001 to Bayou

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Poydras. Treated sanitary wastewater was not previously permitted and will be monitored at an internal outfall.

B. FEE RATE

1. Fee Rating Facility Type: minor
2. Complexity Type: II
3. Wastewater Type: III
4. SIC code(s): 3295

C. LOCATION - 12652 Airline Highway 190  
Erwinville, Point Coupee Parish  
Latitude +30° 11' 34", Longitude -93° 37' 29"

3. OUTFALL INFORMATION

Outfall 001

**Discharge Type:** storm water runoff, kiln scrubber water, fugitive emission damping water, non-contact cooling water, wash water, and treated sanitary wastewater

**Treatment:** settling pond system

**Location:** at point of discharge from the settling pond system located at the southeast corner of the facility prior to mixing with other waters

Latitude 30 deg. 31 min. 30 sec., Longitude 91 deg. 24 min. 25 sec.

**Flow:** 1.82 MGD Average Flow

**Discharge Route:** directly to Bayou Poydras

Internal Outfall 101

**Discharge Type:** treated sanitary wastewater

**Treatment:** extended aeration package plant

**Location:** at point of discharge from the extended aeration package plant prior to mixing with other waters

**Flow:** 300 GPD Average Flow

**Discharge Route:** by pipe to settling pond system

4. RECEIVING WATERS

STREAM – Outfall 001 – by pipe to Bayou Poydras

BASIN AND SEGMENT – Terrebonne Basin – Subsegment 120102

DESIGNATED USES -

- a. Primary contact recreation
- b. Secondary contact recreation
- c. Propagation of fish and wildlife

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5. EXISTING EFFLUENT LIMITS

Outfall 001 – storm water runoff, kiln scrubber water, fugitive emission damping water, non-contact cooling water, and wash water

Parameter	Limitation Mo. Avg.: Wkly Avg.	Monitoring Frequency
Flow	---: Report (MGD)	1/month
Oil & Grease	---: 15 mg/L	1/month
TOC	---: 50 mg/L	1/month
TSS	---: 135 mg/L	1/month
pH	6.0 – 9.0 s.u.	1/month

6. PROPOSED EFFLUENT LIMITS

BASIS – See rationale below.

7. COMPLIANCE HISTORY/COMMENTS

A. Compliance History

There are no Water Compliance Evaluation Inspections on file since March 1, 2005. There are no open, appealed, or pending OES enforcement actions as of October 30, 2009. There is no EPA enforcement history on file as of October 30, 2009.

B. DMR Review/Excursions

For the period January 1, 2006 through June 1, 2009, all required testing was performed and DMRs were submitted (a total of 30 months). No excursions reported. DMR compilation sheets attached.

8. ENDANGERED SPECIES

The receiving waterbodies and discharge are not listed in Section II.2 of the Implementation Strategy as requiring consultation with the U.S. Fish and Wildlife Service (FWS). This strategy was submitted with a letter dated November 17, 2008 from Rieck (FWS) to Nolan (LDEQ). Therefore, in accordance with the Memorandum of Understanding between the LDEQ and the FWS, no further informal (Section 7, Endangered Species Act) consultation is required. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat. Therefore, the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat.

9. 303 (d) LISTED WATERBODIES

Subsegment 120102, Bayou Poydras, from headwaters to Bayou Choctaw, is not listed on LDEQ's Final 2006 303(d) list as impaired. However, subsegment 120102 was previously listed as impaired for Organic Enrichment/Low DO, TSS/Sediment/Turbidity, TDS, Sulfates, and Pathogen Indicators, for which the below TMDL's have been developed. The Department of Environmental Quality reserves the right to impose more stringent discharge limitations and/or additional restrictions in the future to maintain the water quality integrity and the designated uses of the receiving water bodies based upon additional TMDL's and/or water quality studies. The DEQ also reserves the right to modify or revoke and reissue this permit based upon any changes to established TMDL's for this discharge, or to accommodate for pollutant trading provisions in approved TMDL watersheds as necessary to achieve compliance with water quality standards.

The following TMDL's have been established for subsegment 120102:

**TMDLs for Dissolved Oxygen and Nutrients in Selected Subsegments in the Upper Terrebonne Basin, Louisiana**

Only two facilities, the Alma Plantation and the Ashland Plantation, required changes in their permit limits as a result of the dissolved oxygen (DO) TMDL. Since this facility does have the potential to contribute to the organic enrichment/low DO impairments of this subsegment, a BOD<sub>5</sub> limit has been established for Outfall 101.

**TMDLs for Fecal Coliform Bacteria, Sulfates, Total Dissolved Solids (TDS), Sediment, Total Suspended Solids (TSS), and Turbidity for Selected Subsegments in the Terrebonne Basin, Louisiana**

**TDS and Sulfates**

As per the TMDL, "no domestic wastewater facilities with permit limits for chloride, sulfate, or TDS were found in the Terrebonne Basin, although it is possible that the discharges from such facilities could have slightly elevated levels of these parameters. Therefore, these facilities were given WLAs using facility flow and water quality criteria. As long as point source discharges of treated wastewater contain parameter levels at or below these permit limits, they should not be a cause of exceedances of water quality criteria." Since similar sized discharges of treated sanitary wastewater were assigned TDS and Sulfate WLAs, this facility has been assigned limits for TDS and Sulfates for the treated sanitary wastewater.

*Margin of Safety (MOS) Use*

The TMDL report states, "An explicit MOS of 10 percent was included, except for turbidity, sediment, and TSS, which had an implicit MOS. A Future Growth (FG) component of 10 percent was also included in this TMDL." A portion of the FG for the TDS and Sulfate parameters is proposed for use by Big River Industries, Inc. – Gravelite Division.

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Fecal Coliform Bacteria

As per TMDL, "for fecal coliform bacteria, LDEQ's policy is to set wastewater permit limits no higher than water quality criteria (i.e., criteria are met at end-of-pipe). As long as point source discharges of treated wastewater contain parameter levels at or below these permit limits, they should not be a cause of exceedances of the fecal coliform bacteria water quality criteria." Therefore, end-of-pipe limits have been established for Outfall 101.

*Margin of Safety (MOS) Use*

The TMDL report states, "An explicit MOS of 10 percent was included, except for turbidity, sediment, and TSS, which had an implicit MOS. A Future Growth (FG) component of 10 percent was also included in this TMDL." A portion of the FG for the Fecal Coliform Bacteria parameter is proposed for use by Big River Industries, Inc. – Gravelite Division.

TSS/Sediment/Turbidity

As per TMDL, "no wastewater facilities were included in the TMDL for TSS or turbidity because it appears that the only facilities that contribute to turbidity are small or remote and, therefore, are not significant". Since this facility does have the potential to contribute to the TSS impairment of this subsegment, the TSS limit will be maintained for Outfall 001.

10. HISTORIC SITES

The discharge is from an existing facility location, which does not include an expansion on undisturbed soils. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.

11. TENTATIVE DETERMINATION

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to issue a permit for the discharge described in the application.

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12. PUBLIC NOTICES

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the statement of basis. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

Local newspaper of general circulation

Office of Environmental Services Public Notice Mailing List

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#### Rationale for Facility

**Outfall 001** – storm water runoff, kiln scrubber water, fugitive emission damping water, non-contact cooling water, wash water, and treated sanitary wastewater

<u>Parameter</u>	<u>Limitation</u> Mo. Avg. : Daily Max.	<u>Reference</u>
Flow (GPD)	--- : Report	LAC 33:IX.2361.I.1.b
TOC	--- : 50 mg/L	Previous permit, Similar discharges (BPJ)
TSS	--- : 135 mg/L	Previous permit, Similar discharges (BPJ)
Oil & Grease	--- : 15 mg/L	Previous permit, Similar discharges (BPJ)
pH	6.0 - 9.0 s.u.	Previous permit, Similar discharges (BPJ)

**Treatment:** settling pond system

**Monitoring Frequency:** Monitoring frequencies are continued from the previous permit: Once per month for all parameters.

**Limits Justification:** For all parameters, limitations are based on the prior permit and current guidance for similar discharges from other facilities.

An Oil and Grease limitation is included because effluent flow includes equipment wash water.

Since there is no numeric water quality criterion for TSS, and in accordance with the current Water Quality Management Plan, the TSS effluent limitations shall be based on a case-by-case evaluation of the treatment technology being utilized at a facility. Therefore, a Technology Based Limit has been established through Best Professional Judgement for the type of treatment technology utilized at this facility.

The pH limits are established through BPJ considering BCT for similar waste streams in accordance with LAC 33:IX.5905.C.

**Internal Outfall 101** – treated sanitary wastewater

<u>Parameter</u>	<u>Limitation</u> Mo. Avg. : Daily Max.	<u>Reference</u>
Flow (GPD)	--- : Report	LAC 33:IX.2361.I.1.b
Sulfates	0.31 : --- lbs/day	TMDL
BOD <sub>5</sub>	30 : 45 : --- mg/L	Class I Sanitary General Permit
TDS	2.09 : --- lbs/day	TMDL
Fecal Coliform	200 : 400 colonies/100 mL	TMDL

**Treatment:** extended aeration package plant

**Monitoring Frequency:** Once per six months for flow, BOD<sub>5</sub>, and Fecal Coliform. Once per year for Sulfates and TDS.

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**Limits Justification:** For all parameters, limitations are based on the Class I Sanitary General Permit LAG530000, TMDLs for Subsegment 120102, and current guidance for similar discharges from other facilities. Daily Maximum is now used for non-POTW sanitary wastewater flows per current practice.

The discharge from this facility is into a water body which has a designated use of Primary Contact Recreation. According to LAC 33:IX.1113.C.5.b.i, the fecal coliform standards for this water body are 200/100 ml and 400/100 ml. Therefore, the limits of 200/100 ml (Monthly Average) and 400/100 ml (Daily Maximum) are proposed as Fecal Coliform limits in the permit. These limits are being proposed in accordance with the TMDL for Fecal Coliform, Chlorides, Sulfates, TDS, Sediment, TSS, and Turbidity for Selected Subsegments in the Terrebonne Basin.

The pH limits are established through BPJ considering BCT for similar waste streams in accordance with LAC 33:IX.5905.C.

Final effluent mass loadings (i.e. lb/day) have been established based upon the water quality criteria and the maximum facility flow of 0.0005 MGD.

Sulfates:  $8.34 \text{ lb/gal} \times 0.0005 \text{ MGD} \times 75 \text{ mg/l} = 0.31 \text{ lb/day}$   
TDS:  $8.34 \text{ lb/gal} \times 0.0005 \text{ MGD} \times 500 \text{ mg/l} = 2.085 \text{ lb/day}$

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**NOTE:**

The usage of concentration limits is based on BPJ for similar outfalls since the flow is variable and estimated.

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**Storm Water Pollution Prevention Plan (SWP3) Requirement:** A SWP3 is included in the permit because in accordance with LAC 33:IX.2511.A.1, storm water shall not be required to obtain an LPDES permit "... except... discharges associated with industrial activity." In accordance with LAC 33:IX.2511.B.14.a-k, facilities classified as SIC code 3295 are considered to have storm water discharges associated with industrial activity.

The SWP3 shall be updated and maintained within sixty days from the effective date of the final permit. The plan should identify potential sources of storm water pollution and ensure the implementation of practices to prevent and reduce pollutants in storm water discharges associated with industrial activity at the facility (see narrative requirements of the Draft Permit).

**Additional Information:** The Louisiana Department of Environmental Quality (LDEQ) reserves the right to impose more stringent discharge limitations and/or additional restrictions in the future to maintain the water quality integrity and the designated uses of the receiving water bodies based upon additional water quality studies and/or TMDLs. The LDEQ also reserves the right to modify or revoke and reissue this permit based upon any changes to established TMDLs for this discharge, or to accommodate for pollutant trading provisions in approved TMDL watersheds as necessary to achieve compliance with water quality standards. Therefore, prior to upgrading or expanding this facility, the permittee should contact the Department to determine the status of the work being done to establish future effluent limitations and additional permit conditions.



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In accordance with LAC 33:IX.2903., this permit may be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitations issued or approved under sections 301(b) (2) Cc) and CD); 304(b) (2); and 307(a) (2) of the Clean Water Act, if the effluent standard or limitations so issued or approved:

1. Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
2. Controls any pollutant not limited in the permit; or
3. Require reassessment due to change in 303(d) status of waterbody; or
4. Incorporates the results of any total maximum daily load allocation, which may be approved for the receiving water body.

Please be aware that the Department has the authority to reduce monitoring frequencies when a permittee demonstrates two or more consecutive years of permit compliance. Monitoring frequencies established in LPDES permits are based on a number of factors, including but not limited to, the size of the discharge, the type of wastewater being discharged, the specific operations at the facility, past compliance history, similar facilities and best professional judgment of the reviewer. We encourage and invite each permittee to institute positive measures to ensure continued compliance with the LPDES permit, thereby qualifying for reduced monitoring frequencies upon permit reissuance. If the Department can be of any assistance in this area, please do not hesitate to contact us. As a reminder, the Department will also consider an increase in monitoring frequency upon permit reissuance when the permittee demonstrates continued non-compliance.

BPJ Best Professional Judgment  
GPD Gallons per Day  
s.u. Standard Units

DMR Review for  
Big River Industries, Inc. – Gravelite Division  
Permit: LA0090387 AI: 1272

**Outfall 001**

Parameter	TSS	Oil & Grease	TOC	Flow	pH
Units	mg/l	mg/l	mg/l	MGD	s.u.
Frequency	Monthly	Monthly	Monthly	Monthly	Monthly
	Daily Max.	Daily Max.	Daily Max.	Daily Max.	Minimum/ Maximum
Limit	135	15	50	Report	6.0-9.0
Date					
June 2009	23	<5.1	4.7	5.76	8.0
May 2009	12	<5.6	9.9	5.76	7.6
April 2009	43	<7.5	7.3	5.76	8.2
March 2009	21	<5.1	<1	5.76	8.3
February 2009	11	<5.6	<1	5.76	8.1
January 2009	133	<5.1	4.1	5.76	7.9
December 2008	49	<5.1	8.2	5.76	7.9
November 2008	16	<5.1	<1	5.76	7.9
October 2008	24.8	<5	2.31	5.76	7.8
September 2008	7.2	<5.9	5	5.76	6.9
August 2008	8.8	<5	<1	5.76	8.0
July 2008	9.6	<5	3.7	5.76	7.5
June 2008	7.7	<5	9.4	5.76	6.9
May 2008	8.4	<5	2.49	5.76	7.3
April 2008	19.6	<5.8	3.04	5.76	7.3
March 2008	54.8	<5	3.29	5.76	7.7
February 2008	14	<5	4.9	5.76	7.1
January 2008	35	6.0	2.67	5.76	7.3
December 2007	31.6	<5	1.98	5.76	7.1
November 2007	11.2	<5.7	3.69	5.76	7.9
October 2007	22.4	<5	4.21	5.76	7.1
September 2007	5.8	<5	5.91	5.76	7.4
August 2007	16.8	<5	6.07	5.76	7.1
July 2007	4.4	<5	8.97	5.76	6.6
June 2007	14	<5	7.34	5.76	6.9
May 2007	12	<5	8.64	5.76	6.8
April 2007	8.8	<5	<1	5.76	7.6
March 2007	12	<5	26.4	5.76	7.7
February 2007	17.2	<5.8	3.89	5.76	6.9
January 2007	9.6	<5	10.6	5.76	6.5

Notes: No Excursions all DMRs on file